

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>O.Z. 6287-WO</b>	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/050005</b>	International filing date ( <i>day/month/year</i> ) <b>08.01.2004</b>	Priority date ( <i>day/month/year</i> ) <b>22.01.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>C01B 33/193, C08K 3/36, 9/06</b>		
Applicant <b>DEGUSSA AG</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 6 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input checked="" type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand <b>22-06-2004</b>	Date of completion of this report <b>22-03-2005</b>
Name and mailing address of the IPEA/  	Authorized officer  
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050005

Box No. I

## Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-36 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 1-21 \_\_\_\_\_ received by this Authority on 10.11.04/ letter submitted on 08.11.04
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- sheets \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050005

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims		YES
	Claims	1-21	NO
Inventive step (IS)	Claims		YES
	Claims	1-21	NO
Industrial applicability (IA)	Claims	1-21	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

## 1 Prior art:

## 1.1 Reference is made to the following documents:

D1: EP 0901986

D2: EP 0983966

D3: EP 0754650

D4: EP 0755899

1.2 Certain published documents (Rule 70.10 and Box VI): WO 03/106339

## 2 PCT Article 33(2):

## 2.1 The current application claims precipitation silicic acids that are defined by six parameter ranges (claims 1-9) and in terms of their surface modification (claims 16 and 17).

The methods for producing said silicic acids are claimed in claims 10-15 and 18 and the possibilities of use therefor are claimed in claims 19 and 20. Finally, claim 21 discloses a

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Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

vulcanisable rubber mixture that contains non-modified silicic acid.

2.2 The described silicic acids, methods for the production thereof and use thereof in rubber mixtures are anticipated by documents D1, D2 and D4 in a manner that is prejudicial to novelty.

2.3 D1 describes in paragraph 10 precipitation silicic acids that are characterised by corresponding BET-, CTAB-, DBP-, BET/CTAB- and  $V_2$  numbers. The humidity is considered to be implicitly disclosed, since a drying step finishes the production process (paragraph 12). The ranges disclosed for the BET- and  $V_2$  numbers produce a ratio of  $V_2$  to BET of  $0.02 - 0.208 \text{ ml}/(5 \text{ m}^2)$ . Organo silanes such as are used in claims 16-18 are disclosed in paragraph 21. Consequently, all six parameters of the claimed precipitation silicic acids are satisfied and the surface treatment described. Paragraphs 22 - 30 anticipate the subject matter of claims 18-21.

D1 prejudices the novelty of claims 1-9 and 16-21.

2.4 Similarly, D2 describes precipitation silicic acids with corresponding CTAB-, BET-, DBP-, CTAB/BET- and  $V_2$  values (paragraph 16). Again, the  $V_2$  to BET ratio can be determined and lies between  $0.028$  and  $0.313 \text{ ml}/(5 \text{ m}^2)$ . Here also, humidity is considered a given. Surface treatment with organo silanes and the use in rubber mixtures are

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disclosed in paragraphs 29 - 42.

D2 (claims 1-5, 11-13) is prejudicial to the novelty of claims 1-9 and 16-21.

2.5 The precipitation silicic acids from D3 are explicitly characterised by three of the six parameters, the production method differing by virtue of the level of the alkali number to be kept constant,  $7 \pm 1$  vs. 15-30. It can therefore be assumed that the non-stated parameters cannot be taken implicitly from D3.

2.6 D4 concerns precipitation silicic acids (see page 1, lines 14-33), which are explicitly characterised by BET- and DBP values as well as humidity (= drying loss). Since the production method in claim 3 has the same steps as specified in the current claim 10, the remaining parameters are considered to be implicitly disclosed.

D4 is prejudicial to the novelty of claims 1-15.

### 3 PCT Article 33(4):

3.1 The subject matter of the claims is industrially applicable.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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**Box No. VI**      **Certain documents cited**

## 1.    Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
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## 2.    Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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See Box V, item 1.2